

GAMMA RAY DETECTORS HAVING IMPROVED SIGNAL-TO-NOISE  
RATIO AND RELATED SYSTEMS AND METHODS FOR ANALYZING  
MATERIALS IN AN OIL WELL

ABSTRACT

A gamma ray detector assembly for placement in a logging tool in a borehole can include a first gamma ray detector elongated along an axis and having a void extending along the axis. A second gamma ray detector conforms to at least a portion of the void. The first and the second gamma ray detectors are configured to be positioned in the borehole.